ATTACHMENT A

ORA's Proposed Findings of Fact and Conclusions of Law

Findings of Fact

1. **[This proposed Finding of Fact (#1) should be adopted if the Commission adopts ORA's primary recommendation to authorize procurement for the SONGS study area on the basis of a complete record of available solutions, including consideration of the upcoming results from CAISO's 2013/2014 TPP.]** Power flow modeling results that exclude the full available range of reactive power options make it difficult to identify the true impact that reactive power can have in reducing procurement need. CAISO's analyses in the record do not include the effect of modeling such reactive resources and certain transmission projects (i.e., Mesa Loop-In). Similarly, neither SCE nor SDG&E modeled the effect of all conceptual mitigation solutions on LCR need across the entire SONGS study area.
2. Reactive power solutions can reduce the need for new generation since they allow increased utilization of the existing transmission grid.
3. Reactive power is an essential component to a solution for the SONGS retirement given SONGS' strategic location and role in providing voltage support.
4. The results of CAISO's 2013/2014 Transmission Planning Process will be available in January 2014, and will include information on potential transmission mitigation solutions, including the need for additional reactive support.
5. **Additional Reactive Power:** CAISO witness Mr. Millar predicted in December 2012 that reactive power resources in SDG&E's service territory would likely decrease the need for real power by 700 MW. It is reasonable to assume that some of those resources were reflected in CAISO's Track 4 power flow models; however, CAISO's Track 4 modeling did not include SDG&E proposed Suncrest +/- 240 mega volt-ampere reactive (MVAR) synchronous condenser and the proposed Canon/Encina +/- 240 MVAR synchronous condenser. Thus, it is reasonable to assume a 350 MW reduction in SONGS study area need to account for additional reactive power resources expected to reduce need but not reflected in CAISO's Track 4 modeling.
6. **Mesa Loop-In:** It is reasonable to assume that the expected impact of the Mesa Loop-In transmission project is 734 MW.

7. **Preferred Resources:** In order to determine the level of preferred resources available to meet need across the entire SONGS study area, it is reasonable to first add additional preferred resources not modeled pursuant to the Revised Scoping memo (including approximately 369 MW of EE, 997 MW of second contingency DR, and 279 MW of second contingency small PV, for a total of roughly 1650 MW), and then subtract the 550 MW of preferred resources already authorized by D.13-02-015. Thus, it is reasonable to assume that 1,100 MW of preferred resources will be available to meet need across the entire SONGS study area.
8. In order to determine a range of need for the SONGS study area, it is reasonable to start with CAISO's identified "Residual Resource Need in 2022 Without SONGS" for the two-thirds/one-third scenario (4,507 MW) and the 80%/20% scenario (4,642 MW) and, from these respective amounts, subtract SCE's Track 1 authorization (1,800 MW), SDG&E's procurement authorization from D.13-03-029 (308 MW), the expected Mesa Loop-In impact (734 MW), and the assumed reduction in need to account for reactive power resources expected to reduce need but not reflected in CAISO's Track 4 modeling (350 MW). This leads to a minimum SONGS study area need, from the two-thirds/one-third scenario, of 1,315 MW [4,507 MW – 1,800 MW – 308 MW – 734 MW – 350 MW], and a maximum SONGS study area need, from the 80%/20% scenario, of 1,450 MW [4,642 MW – 1,800 MW – 308 MW – 734 MW – 350 MW].
9. It is reasonable to assume that 1,100 MW of preferred resources are available to meet the need range for the SONGS study area, thus requiring a residual range from 215 MW [1,315 MW – 1,100 MW] to 350 MW [1,450 MW – 1,100 MW] of non-preferred resources to fill the entire need.
10. It is reasonable to revise any interim procurement authorization for incremental need in the SONGS study area once the 2013/2014 TPP results are available, so that LCR procurement reflects the need that is expected to exist in 2022.
11. Reliance on preferred resources to meet local LCR need will maximize ratepayers' return on investment in preferred resources, because their investment in programs to comply with California's loading order will displace the need for new gas fired generation.
12. There is no minimum level of gas fired generation needed from the standpoint of maintaining system reliability.

13. There are several possibilities available in the event that preferred resources are not available when they are needed, including: (1) limited extension of some units of a OTC plant, (2) use of an existing Special Protection System, and (3) development of local generation development reserves.
14. It is reasonable to consider limited extension to OTC compliance deadlines of the most electrically effective OTC plant(s) if needed to bridge a short-term gap between when resources are needed, and when they are available.
15. The State Water Resource's Control Board's (SWRCB) OTC Policy allows for two types of temporary suspension of OTC units; less than 90 days or more than 90 days for existing OTC power plants within CAISO's jurisdiction if "CAISO determines that continued operation of an existing power plant is necessary to maintain the reliability of the electric system...."
16. It is reasonable to consider the use of an existing SPS as an interim solution to allow the development of resources that might not be ready at the precise time they are needed.
17. SDG&E has a WECC-certified SPS in place to protect grid integrity in the event of the loss of a generator followed by the sequential loss of the ECO-Miguel section of the Southwest Powerlink 500 kV line and the Ocotillo Express Suncrest section of the Sunrise Powerlink, a G-1/N-1-1 contingency.
18. If the utilities can work with state regulatory agencies to establish a process that allows for staged approval, then it is reasonable to consider investment in local generation development reserves (i.e., SCE's proposed contingent site development and SDG&E's proposed energy park) now for future use as a hedge against unforeseen local reliability issues and just-in-time procurement.
19. It is reasonable to expect that SCE's proposal for option contracts with third party developers could result in unreasonable costs to ratepayers.
20. The use of an SPS to mitigate the N-1-1 contingency makes a significant difference in the determination of need for the SONGS study area.
21. The amount of new generation that reliance on an SPS could displace in the SONGS study area ranges from more than 500 MW to 900 MW.
22. The costs for installing new gas-fired generation in lieu of use of an SPS for the N-1-1 would range from roughly $595 million (436 MW) to $1.36 billion (1,000 MW) using $1,363/kW as the installed capital cost for a combustion turbine. [

23. Neither the CAISO nor SDG&E conducted studies to compare the cost or risk of relying on the currently in place SPS versus the costs of other resources to mitigate the critical contingency in the SONGS study area.
24. CAM allocation of the net capacity costs for all Track 4 procurement in the SONGS study area to all benefitting customers, including bundled customers, DA customers, and CCA customers, is consistent with the principle that each customer must pay their fair share for the benefits that flow to them from the new generation.

Conclusions of Law

1. **[This proposed Conclusion of Law (#1) should be adopted if the Commission adopts ORA's primary recommendation to authorize procurement for the SONGS study area on the basis of a complete record of available solutions, including consideration of the upcoming results from CAISO's 2013/2014 TPP.]** It is reasonable for the Commission to consider any potential procurement authorization for the SONGS Study Area after consideration of the CAISO's 2013/1014 Transmission Planning Process, which will allow determination of need and any necessary procurement authorization based on a record that includes the effect of feasible reactive power solutions and transmission upgrades.
2. In authorizing any new LCR resources in the SONGS study area, it is reasonable for the Commission to rely on power flow studies that evaluate the need in the entire SONGS study area to minimize ratepayer cost and GHG emissions.
3. Consistent with Public Utilities Code § 454.5(b)(9)(C), which states that utilities must first meet their "unmet resource needs through all available energy efficiency and demand reduction resources that are cost-effective, reliable and feasible," and the Commission's Loading Order established in the Energy Action Plan, utility LCR procurement must take into account the availability of preferred resources before procuring non-preferred resources.
4. SCE and SDG&E should be required to procure at least 1,100 MW of preferred resources: 700 MW in SCE service territory and 400 MW in SDG&E service territory.
5. SDG&E should be required to procure between 215 and 350 MW of resources in an all-source RFO.

6. The Commission should revise any interim procurement authorization for incremental need in the SONGS study area once the 2013/1014 TPP results are available.
7. Revising procurement authorization based on updated information is consistent with Commission policy established in D.13-03-029, the decision approving the Escondido PPTA.
8. Relaxation of hard compliance deadlines for local OTC units is consistent with the State Water Resources Control Board's *Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling* (OTC Policy).
9. SCE and SDG&E should be required to each submit a procurement plan to the Commission for compliance review of the requirements of this decision.
10. SCE and SDG&E's submitted procurement plans should:
    a. Explain how the totality of the contracts or programs are cost effective and consistent with the loading order, including a demonstration that each utility has assessed the availability, economics, and viability of the preferred resources to meet LCR need.
    b. Demonstrate technological neutrality, to ensure that no resource was prevented from the solicitation process, although the utilities may include proposals to solicit preferred resources through more than one avenue.
    c. Demonstrate integration with the storage goals adopted in D.13-10-040, which requires SCE to obtain 580 MW and SDG&E 165 MW of energy storage by 2020, and demonstrate that energy storage procurement is least-cost best-fit, tailored according to LCR and operational flexibility needs identified in LTPP, and counted towards meeting LSE's RA requirements.
11. SCE may choose to expand its Preferred Resources "Living" Pilot Program proposal and SDG&E may choose to implement a similar preferred resources pilot.
12. SCE & SDG&E may choose to obtain some preferred resources from expansion of their existing programs.
13. The record lacks sufficient information to make a reasoned quantification of the risk and cost of relying on the currently in place SPS versus the costs of other resources to mitigate the critical contingency in the SONGS study area.

14. Decisions regarding reliable service options should be based on an informed record regarding costs, benefits, and risks of relying on the currently in place SPS versus the costs of other resources to mitigate the critical contingency in the SONGS study area.
15. Consistent with D.05-10-042, LCR procurement authorization is not based on "reliability at any cost," but instead emphasizes that "measures that are proposed to promote greater grid reliability should be evaluated by weighing their expected costs against the value of their expected contribution to reliability...."

Consistent with Public Utilities Code § 365(c)(2)(A), the net capacity costs of all Track 4 procurement should be allocated to all benefiting customers in the SONGS study area, including bundled customers, DA customers, and CCA customers.

ATTACHMENT B

CALCULATION OF TRACK 4 LCR NEED BASED ON RECORD AS OF 11/25/2013

Figures 1-12 Illustration of Residual Need – B1-B4

Calculation of SONGS Study Area Need – B5-B6

Incremental Uncommitted Efficiency Savings for Electricity, Mid Savings Case – B7

CAISO Table 13 – B8

Figure 1: SONGS study area residual LCR need for two-thirds/one-third scenario - SCE Track 1 and SDG&E D.13-03-029 authorizations

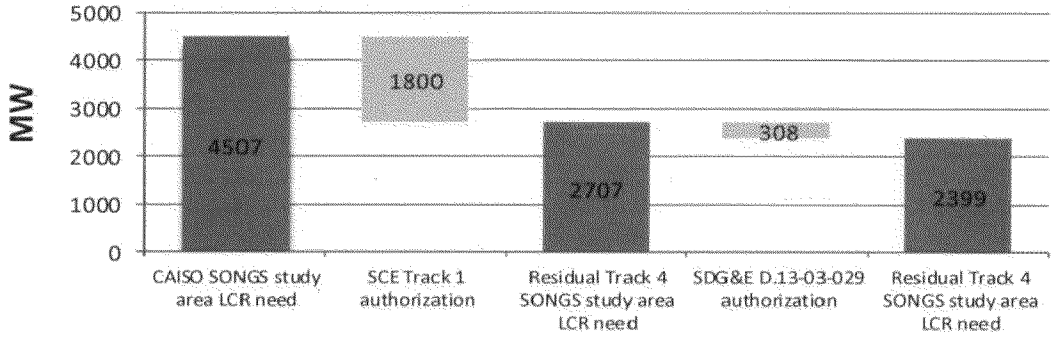


Figure 2: SONGS study area residual LCR need for 80%/20% scenario - SCE Track 1 and SDG&E D.13-03-029 authorizations

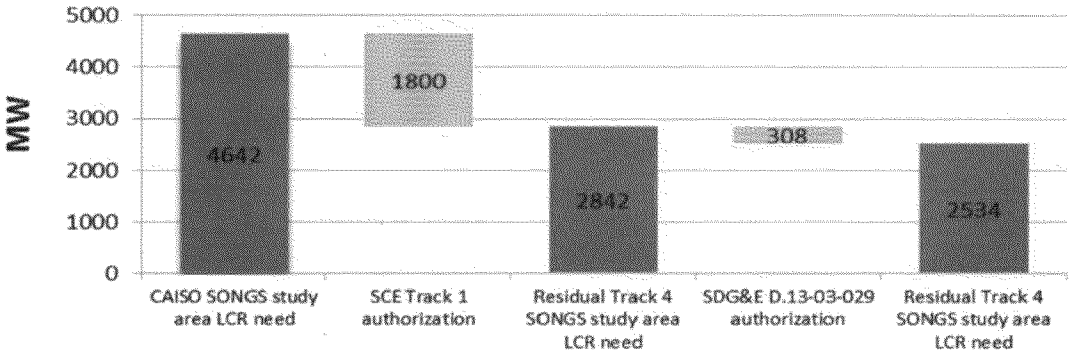
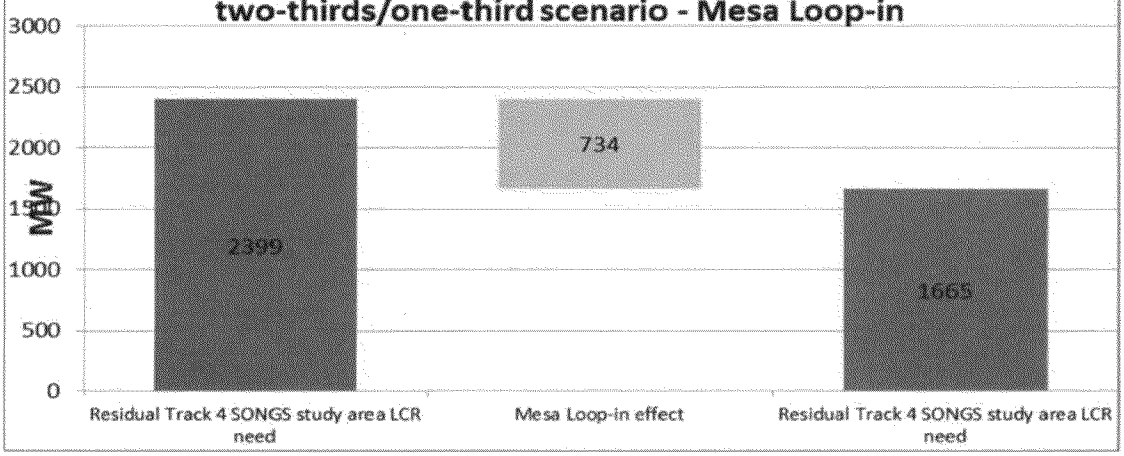
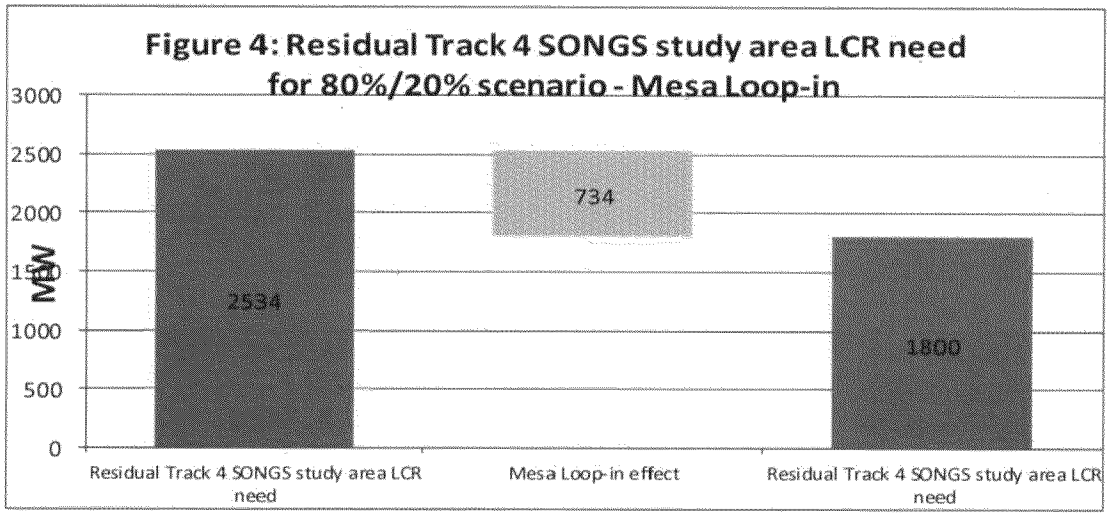
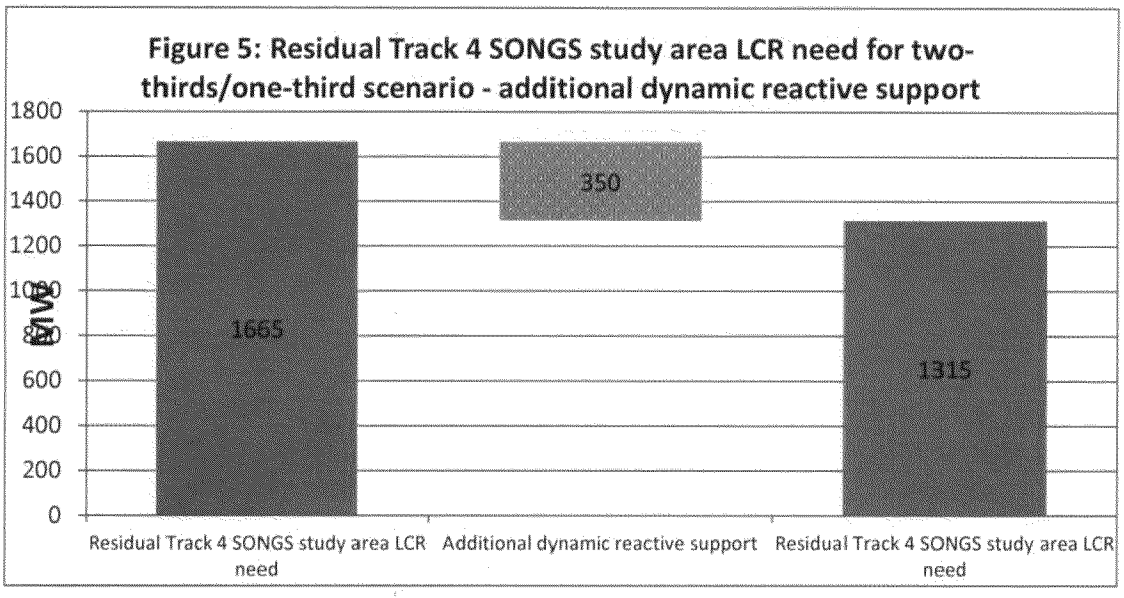
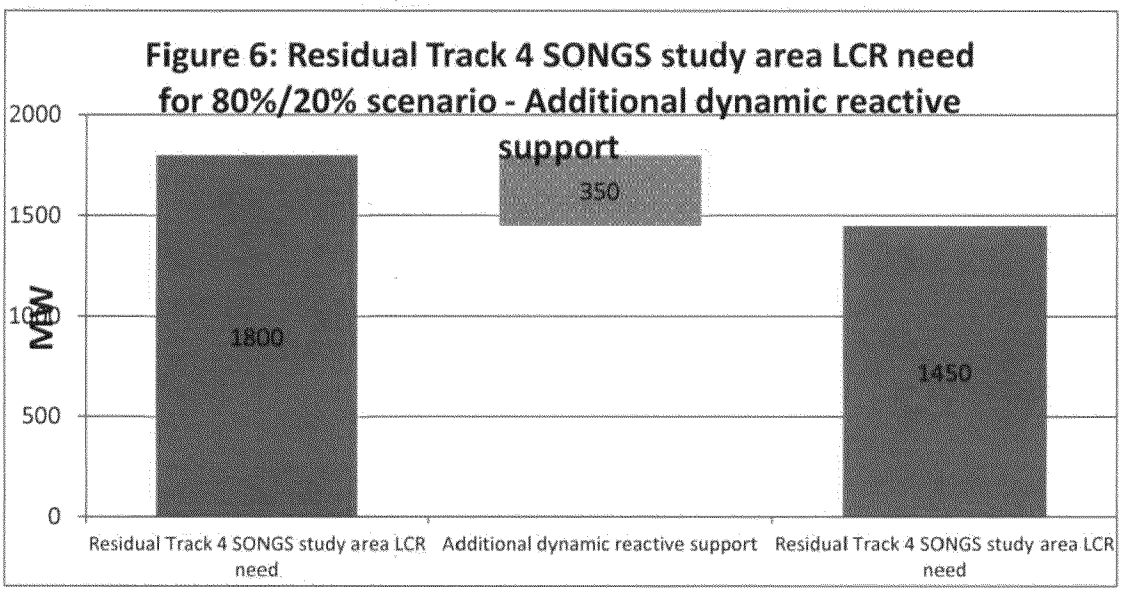


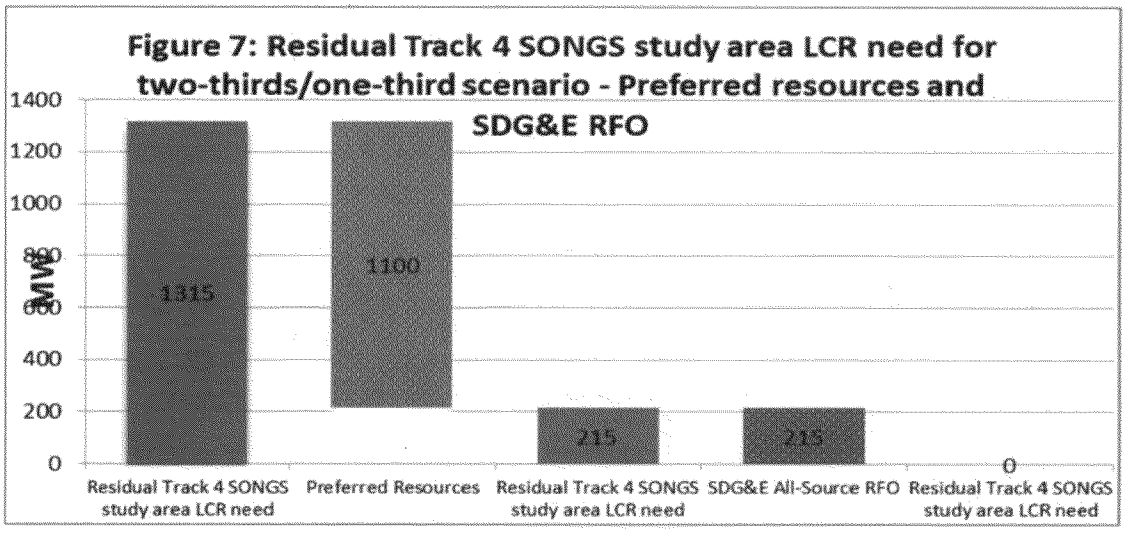
Figure 3: Residual Track 4 SONGS study area LCR need for two-thirds/one-third scenario - Mesa Loop-in

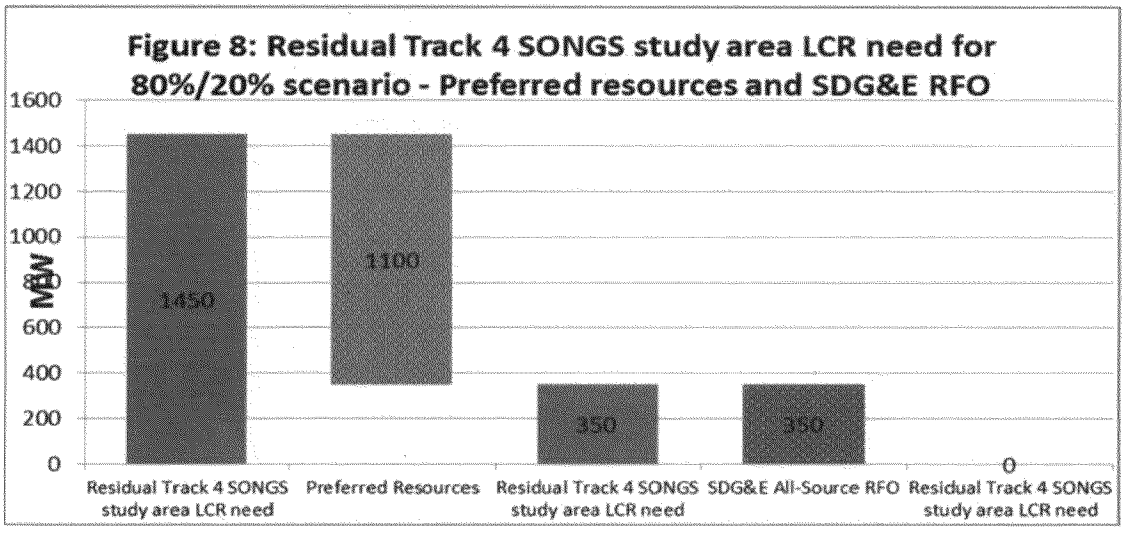


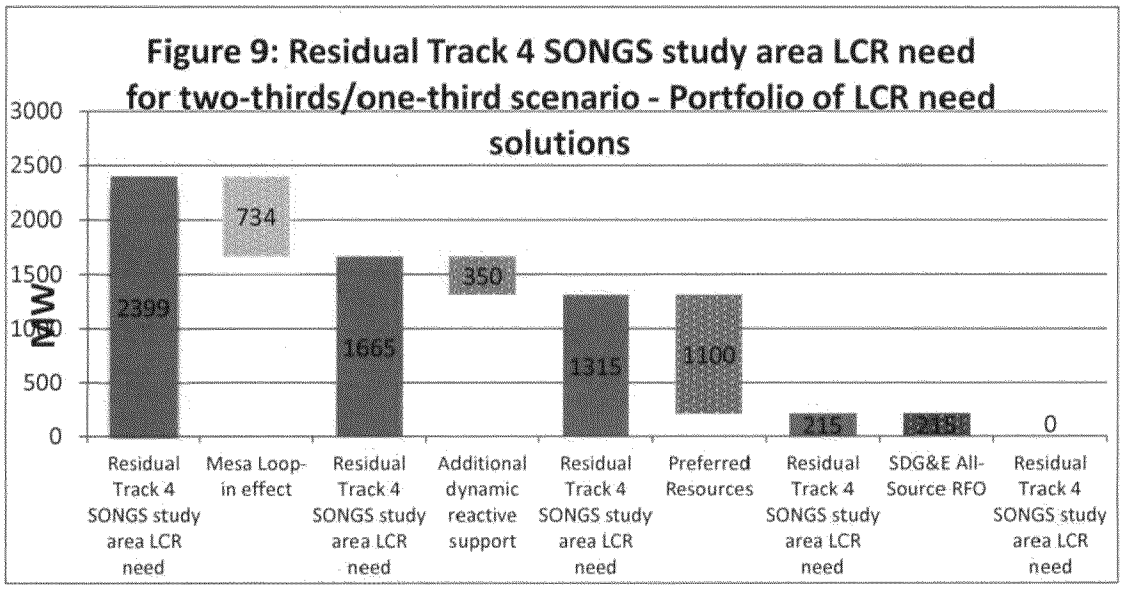


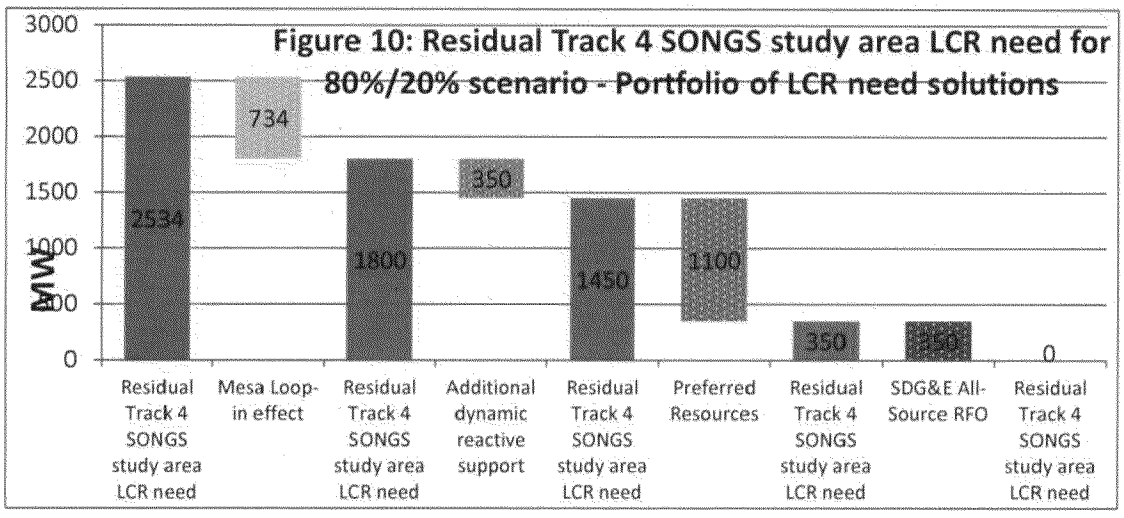


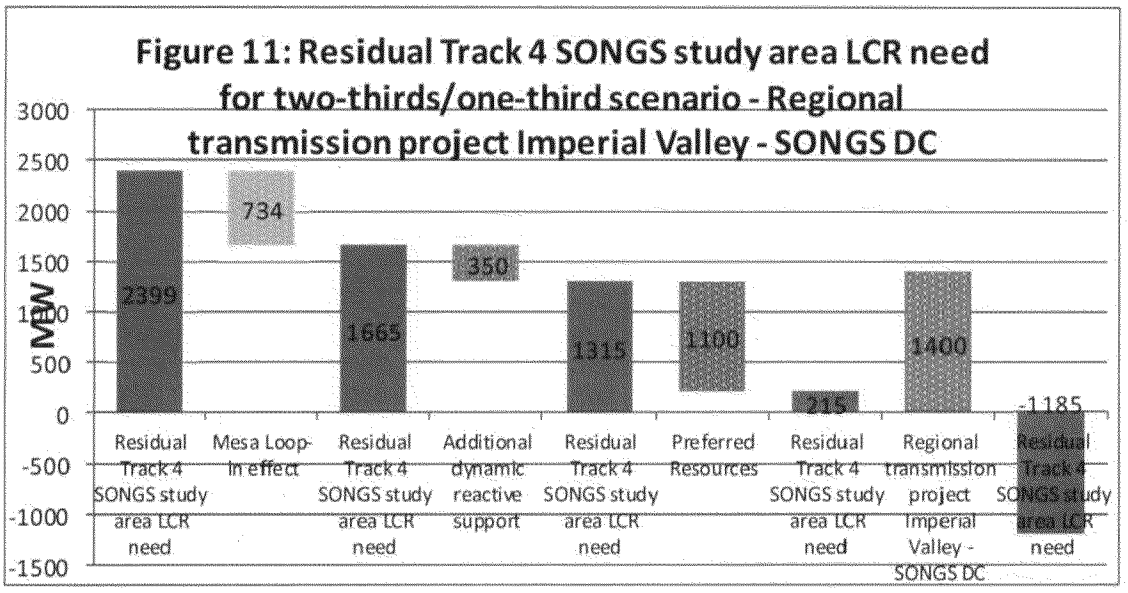


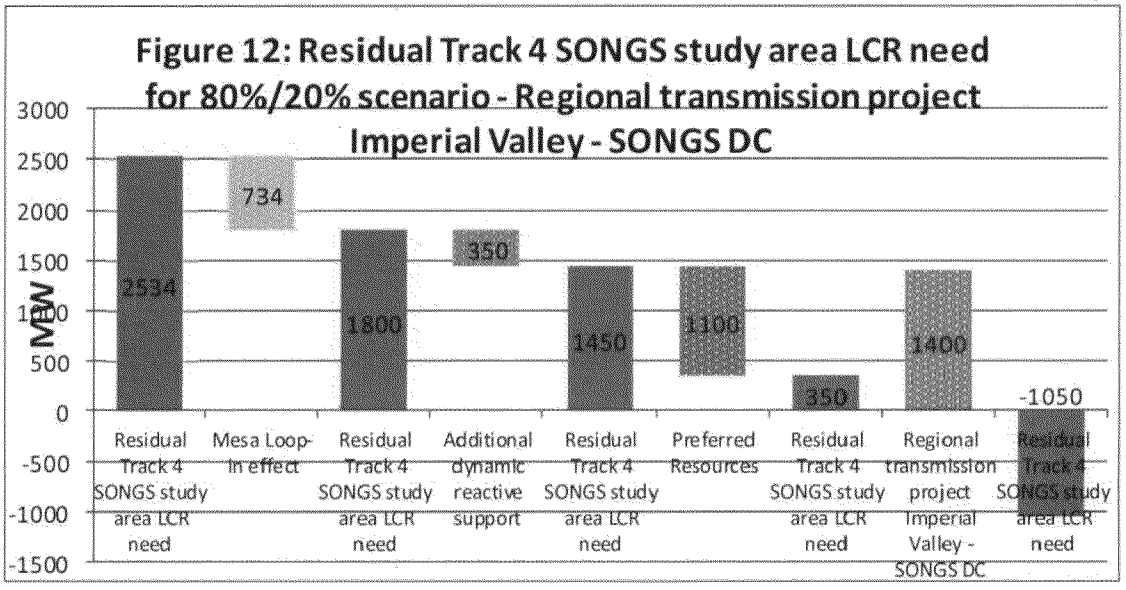












2022 SONGS Area Need

row ID		Resource Location Scenario 80%/20% LA/SD	Resource Location Scenario 67%/33% LA/SD	Source / Comments
				Ex. CAISO 1 / Sparks Table 13, Total Resource Development Scenario designation
	Gross Need			
1	SCE territory	3722	3022	Ex. CAISO 1 / Sparks Table 11 and Table 12
2	SDGE territory	920	1485	Ex. CAISO 1 / Sparks Table 11 and Table 12
3	Gross Need Total	4642	4507	Ex. CAISO 1 / Sparks Table 11, 12 and 13 and sum of above
	Prior Authorizations			
4	Tr1 SCE	1800	1800	D13-02-015 p. 131. Includes up to 550 non-mandated-storage preferred resources
5	A11-05-023 SDGE	308	308	D.13-03-029 Ordering Parag. 1, p.26 and 3 p. 27, as modeled by CAISO
	Residual Need (Gross Need - Prior Authorizations)			
6	SCE	1922	1222	Ex. CAISO 1 / Sparks Table 13 and computed from above
7	SDGE	612	1177	Ex. CAISO 1 / Sparks Table 13 and computed from above
8	Residual Need Total	2534	2399	Ex. CAISO 1 / Sparks Table 13 and computed from above
	Mesa Loop-in SONGS LCR reduction - No Load Shed SPS Assumed - minimum value given			
9	SCE	734	734	Ex. SCE 1 / p37. Lower value (734 MW) assumes no SDGE load shed.
10	SDGE	0	0	No credit given for Mesa Loop in effect on SDGE.
11	Total Mesa Loop-in	734	734	
	Residual Need After Mesa Loop In - No Load Shed SPS Assumed			
12	SCE	1188	488	row 6 minus row 9
13	SDGE	612	1177	row 7 minus row 10
14	Res. Need After Mesa Loop-in	1800	1665	Computed from above
	Additional Reactive - Effect on CAISO Need Computation - Estimated			
15	SCE	100	100	estimated split between SCE/SDGE
16	SDGE	250	250	estimated split between SCE/SDGE
17	Total SONGS area	350	350	estimated - 50% of total (700 MW) from CAISO presentation (Ex. ORA 3 / Fagan Att. K, slide 10) to account for CAISO modeling of some dynamic VAR support.
	Residual Need After Additional Reactive Not Modeled in CAISO's Analysis			
18	SCE	1088	388	row 12 minus 15
19	SDGE	362	927	row 13 minus 16
20	Residual Need Total	1450	1315	sum of above

2022 Sources to Meet Need

row ID	Sources to meet residual need not already modeled in CAISO analysis			
	EE			
21		SCE	238	238 50% of the [Mid-case minus Low-case inc EE] for LA Basin part of SCE territory
22		SDGE	131	131 100% of the [Mid-case minus Low-case inc EE] for SDG&E territory
23	EE total		369	369 sum of above
	DR "2nd contingency" from Scoping Memo			
24		SCE	794	794 Tr. 2 / Tr. 4 Scoping memo - Tr. 4 assumptions
25		SDGE	203	203 Tr. 2 / Tr. 4 Scoping memo - Tr. 4 assumptions
26	DR total		997	997 Tr. 2 / Tr. 4 Scoping memo - Tr. 4 assumptions, sum of above
	Inc. Small PV "2nd contingency" from Scoping Memo			
27		SCE	220	220 Tr. 2 / Tr. 4 Scoping memo - Tr. 4 assumptions - NQC value
28		SDGE	59	59 Tr. 2 / Tr. 4 Scoping memo - Tr. 4 assumptions - NQC values
29			278	278 Tr. 2 / Tr. 4 Scoping memo - Tr. 4 assumptions, sum of above
	Total preferred sources available (sum of above EE, DR, PV)			
30		SCE	1251	1251 row 21 + 24 + 27
31		SDGE	393	393 row 22 + 25 + 29
32		Total	1644	1644 summed from above
	Preferred Resources - non-mandated storage - already in Tr 1 or A11-05-023 authorizations (D.13-02-015, D.13-03-029)			
33		SCE	550	550 Includes up to 550 non-storage preferred (p131 of D13-02-015).
34		SDGE	0	0 No preferred resources authorized in D.13-03-029.
35			550	550 sum of above
	Net preferred sources to meet residual need, after including Tr 1 preferred			
36		SCE	701	701 row 30 - 33
37		SDGE	393	393 row 31 - 34
38			1094	1094 computed from above - EE/DR/PV minus 550 from Track I decision.
39			1100	1100 rounded up from 1094 (assume +6 in SDG&E territory)

Scoping Memo and related CEC IUEE Information

row ID	Inc EE Savings SONGS area - Scoping Memo ftnt 10 / CEC Inc EE					Basis for SONGS area allocation from scoping memo for EE peak			
	Mid	Low	Delta (Mid - Low)	fraction	Net Delta	Low - total territory	fraction SONGS	Mid total territory	Mid - SONGS
21a	1221	746	475	50%	238	973	77%	1593	1221
22a	318	187	131	100%	131	187	100%	318	318
23a	1539	933	606		369	1160		1911	1539

DR 2nd Contingency

24a	794
25a	203
26a	997

	Installed lr peak impa	NQC MW	
27a	488	0.45	219.6
28a	128	0.46	58.9
29a	616		278.5

Source for mid and low inc EE savings:

http://www.energy.ca.gov/2012_energypolicy/documents/demand-forecast/IUEE-CED2011_results_summary.xls

Tabs "low savings elec" and "mid savings elec"

2022 Shortfall

Remaining "Shortfall", = Residual Need after Modifying CAISO for Mesa Loop in and Reactive

40	SCE	387	-313 row 18 - 36
41	SDGE	-31	534 row 19 - 37
42	total SONGS area	356	221 computed from above

Remaining "Shortfall", = Residual Need after Modifying CAISO for Mesa Loop in and Reactive, rounding "Net Preferred sources"

40	SCE	387	-313 row 18 - 36 minus 0 (assume roundup resources to SDGE)
41	SDGE	-37	528 row 19 - 37 minus 6MW difference from rounding up
42	total SONGS area	350	215 computed from above

Incremental Uncommitted Efficiency Savings for Electricity, Mid Savings Case

SCE	Peak (MW)	2017	2018	2019	2020	2021	2022
	Title 20 (non-lighting)	49	54	59	61	61	62
	Federal Standards (non-lighting)	98	126	152	177	203	228
	Title 24 (non-lighting)	50	65	79	93	107	120
	Total Standards (non-lighting)	198	245	289	331	371	411
	Emerging Technologies (non-lighting	95	138	191	249	310	368
	High Impact Measures (non-lighting)	82	94	101	107	112	116
	Low Income Measures (non-lighting)	45	48	51	52	53	54
	Measures of Interest (non-lighting)	15	19	23	26	30	33
	Secondary Measures (non-lighting)	110	132	153	173	193	212
	Usage-Based Behavior	0	0	0	0	0	0
	Total Program-Related Measure	347	431	518	608	698	784
	Net Lighting	215	187	251	310	356	399
	Total Incremental Uncommitted Savings	*760*	*863*	*1058*	*1248*	*1425*	*1593*

SDGE	Peak (MW)	2017	2018	2019	2020	2021	2022
	Title 20 (non-lighting)	11	12	13	14	14	14
	Federal Standards (non-lighting)	18	23	28	32	37	42
	Title 24 (non-lighting)	11	15	18	21	24	27
	Total Standards (non-lighting)	41	50	59	67	75	83
	Emerging Technologies (non-light	21	30	42	54	68	80
	High Impact Measures (non-lighti	15	18	20	22	24	26
	Low Income Measures (non-lighti	9	10	11	12	13	14
	Measures of Interest (non-lighting	4	5	5	6	7	8
	Secondary Measures (non-lighting	16	18	21	24	27	29
	Usage-Based Behavior	0	0	0	0	0	0
	Total Program-Related Measures	64	81	99	119	139	157
	Net Lighting	46	32	48	60	70	78
	Total Incremental Uncommitted Savings	*150*	*164*	*206*	*247*	*284*	*318*

Source: *Revised Scoping Memo* , May 21, 2013, Attachment A, p. 4: Footnote 10 (http://www.energy.ca.gov/2012_energypolicy/documents/demand-forecast/IUEE-CED2011_results_summary.xls)

Table 13 – Residual Resource Needs in 2022 Without SONGS

Scenario	Track 1 Decisions (MW)		Track 4 Studies (2022) (SONGS Study Area = LA Basin + San Diego) (MW)				Residual Resource Needs (Total Track 4 – Maximum Track 1) for SONGS Study Area (MW)
	LA Basin	San Diego	DR Assumptions Modeled for Studies***	Inc. EE Assumptions Modeled for the Studies	System-Connected DGs (Commercial Interest)	Identified Resource Needs Without SONGS	
80%/20% (LA/SD) Total Resource Development Scenario	1.800*	308**	198	983	1.016 (Installed) 457 (NQC)	4.642	4.642 – 1.800 - 308 = 2.534 Breakdown: LA Basin (1.922) San Diego (612)
Two-thirds/One-Thirds(LA/SD) Total Resource Development Scenario	1.800*	308**	198	983	1.016 (Installed) 457 (NQC)	4.507	4.507 – 1.800 – 308 = 2.399 Breakdown: LA Basin (1.222) San Diego (1.177)

Notes:

*Maximum authorized procurement resources in the LA Basin. including preferred resources

**Includes 10 MW of net increase for Escondido

*** Post first contingency values (for use in preparation for second contingency)

ATTACHMENT C

CEERT PROPOSED SCHEDULE CHANGES FOR TRACK 4

Previous Scheduled Event	Revised or Added Schedule
September 23 - Parties' Testimony and Reply to CAISO, SCE and SDG&E Opening Testimony	***September 30, 2013** – Parties' **Initial** Opening Testimony and Reply to CAISO, SCE and SDG&E Opening Testimony*
	***January 2014** – CAISO TPP Study Results*
	***February 2014** – Joint CAISO-CPUC Workshop on TPP Study Results. CAISO to provide any changes to TPP Study Results no later than February 24, 2014.*
	***March 3, 2014** – IOUs, CAISO, and Parties' **Revisions or Updates** to Opening Testimony*
	***March 19, 2014** – Rebuttal Testimony*
October 28–November 1 Evidentiary Hearings	***March 31 – April 11** – Evidentiary Hearings*
	***April 28, 2014** – Opening Briefs*
	***May 5, 2014** – Reply Briefs*
December 2013/March 2014 Proposed Decision	***June 2014** – Proposed Decision*

Source: Comments of the Center for Energy Efficiency and Renewable Technologies on the Track 4 Schedule, September 10, 2013